



# UNITED STATES PATENT AND TRADEMARK OFFICE

*llh*  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,193	08/26/2003	Marilyn H. Perrin	SALK1740-10 (088802-3218)	5260
30542 7590 05/16/2007 FOLEY & LARDNER LLP P.O. BOX 80278 SAN DIEGO, CA 92138-0278				
EXAMINER BORGEEST, CHRISTINA M				
ART UNIT		PAPER NUMBER		
1649				
MAIL DATE		DELIVERY MODE		
05/16/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/649,193	PERRIN ET AL.	
	Examiner	Art Unit	
	Christina Borgeest	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-11,13,14 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8-11,13,14 and 19 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Formal Matters*

The response filed 28 February 2007 is acknowledged. Claims 1 and 11 are amended. Claims 3-4, 12, 15-18 and 20 are cancelled. Claims 1-2, 5-11, 13-14 and 19 are under consideration.

The text of those sections of 35 U.S.C. not included in this action can be found in a prior office action mailed 1 May 2006.

### *Objections/Rejections Withdrawn*

#### *Priority*

Applicant's claim for receiving the benefit of an earlier filing date under 35 U.S.C. [120] of 23 August 1993 was acknowledged but not granted by the Examiner, and the effective filing date determined by the Examiner was 12 November 1998, as set forth at p. 3 of the previous Office actions (mailed 1 May 2006 and 29 November 2006). Applicants have properly showed that they have support for the claimed subject matter in each of the parent applications dating back to 23 August 1993 at p. 8 of their arguments (see particularly the Table at p. 8 of their Arguments). Applicants have shown continuity via copendency in the chain of intervening applications and continuity of subject matter in the chain of intervening applications (MPEP 201.11), thus the priority date of 23 August 1993 is **granted**.

***Claim Rejections - 35 USC § 112, second paragraph***

The rejection of claim 1, and claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, which depend from 1, under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in response to Applicants' amendment of claims 1 and 11, cancellation claims 3-4 and upon reconsideration because previously granted U.S. patents 5,728,545 and 6,638,905 contain comparable language to the claims as currently recited.

***Claim Rejections - 35 USC § 112, first paragraph***

The rejection of claims 1-6, 8-11, 14-20 under 35 U.S.C. 112, first paragraph, for scope of enablement is withdrawn in response to Applicants amendment of claims 1 and 11, cancellation of claims 3-4, 12, 15-18 and 20 and upon reconsideration because previously granted U.S. patents 5,728,545 and 6,638,905 contain comparable language to the claims as currently recited.

***Claim Rejections - 35 USC § 102***

The rejection of claims 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19 and 20 under 35 U.S.C. 102(b) as being anticipated by Laurent et al. (FEBS, 1993; 335: 1-5) is withdrawn because of the cancellation of claims 3-4, 12, 15-18 and 20 and because a priority date of 23 August 1993 was granted and the publication by Laurent et al. no longer qualifies as prior art.

The rejection of claims 1, 8 13 and 14 under 35 U.S.C. 102(b) as being anticipated by Chen et al. (Proc Natl Acad Sci. 1993; 90: 8967-8971—on IDS filed 12 November 2003) is withdrawn because a priority date of 23 August 1993 was granted and the publication by Chen et al. no longer qualifies as prior art.

### ***Double Patenting***

The rejection of claims 1-11 and 13-20 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 5,728,545 (the '545 patent) is withdrawn in response to Applicants cancellation of claims 3-4, 12, 15-18 and 20 and because a restriction requirement between the DNA and protein was made, thus the rejection over the '545 patent is not proper.

### ***Rejection Maintained/New Rejection/Objection***

#### ***Claim Objections***

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 112, first paragraph***

The rejection of claim 13 for scope of enablement as set forth in the previous Office actions (mailed 1 May 2006 and 29 November 2006) is maintained for reasons of record and the following. Claim 13 recites "[a] pure polypeptide comprising at least 15 contiguous amino acids of the amino acid sequence set forth in SEQ ID NO: 15, wherein said polypeptide is about 70% pure (by weight of total proteins). The claim requires only 15 contiguous amino acids without any functional requirement, thus it would require undue experimentation on the part of the person of ordinary skill in the art to use the polypeptides encompassed by the claim. Rijkers et al. (ChemBioChem 2004; 5: 340-348) teach a number of inactive fragments of astressin that do not have biological activity (see Table I, p. 342-343 and p. 343, left column, 1<sup>st</sup> paragraph). Although not the same protein as recited in claim 13; astressin is a CRF receptor antagonist, and the principle is the same; namely that certain residues must be preserved in order to preserve structure-activity relationships. The problem of predicting protein structure from sequence data and in turn utilizing predicted structural determinations to ascertain functional aspects of the protein is extremely complex. Certain positions in the sequence are critical to the protein's structure/function relationship, e.g. such as various sites or regions directly involved in binding, activity and in providing the correct three-dimensional spatial orientation of binding and active sites. These or other regions may also be critical determinants of antigenicity. These regions can tolerate only relatively conservative substitutions or no substitutions (see Wells, 1990, Biochemistry 29:8509-8517; Ngo et al., 1994, The Protein Folding Problem

Art Unit: 1649

and Tertiary Structure Prediction, pp. 492-495). However, Applicant has provided little or no guidance beyond the mere presentation of sequence data to enable one of ordinary skill in the art to determine, without undue experimentation, which fragments of SEQ ID NO: 15 have functional activity. Although the specification outlines art-recognized procedures for producing and screening for active fragments, this is not adequate guidance, but is merely an invitation to the artisan to use the current invention as a starting point for further experimentation. Even if an active or binding site were identified in the specification, they may not be sufficient, as the ordinary artisan would immediately recognize that an active or binding site must assume the proper three-dimensional configuration to be active, which conformation is dependent upon surrounding residues; therefore substitution of non-essential residues can often destroy activity. The art recognizes that function cannot be predicted from structure alone (Bork, 2000, Genome Research 10:398-400; Skolnick et al., 2000, Trends in Biotech. 18(1):34-39, especially p. 36 at Box 2; Doerks et al., 1998, Trends in Genetics 14:248-250; Smith et al., 1997, Nature Biotechnology 15:1222-1223; Brenner, 1999, Trends in Genetics 15:132-133; Bork et al., 1996, Trends in Genetics 12:425-427).

Due to the large quantity of experimentation necessary to generate the large number of fragments recited in the claims and screen same for activity, the lack of direction/guidance presented in the specification regarding which structural features are required in order to provide activity, the absence of working examples directed to same, the complex nature of the invention, the state of the prior art which establishes the unpredictability of the effects of mutation on protein structure and function, and the

Art Unit: 1649

breadth of the claims which fail to recite any structural or functional limitations, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 5-6, 8-11, 13-14 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,638,905 (the '905 patent). Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as broadly recited, encompass the G protein-coupled corticotropin-releasing factor (CRF) receptor protein of the '905 patent. For example, instant claims 1, 11 (and their dependent



Art Unit: 1649

claims) recite the CRF receptor protein in terms of a protein that is encoded by DNA that hybridizes to the complement of the polynucleotide sequence set forth in SEQ ID NO: 14...so as to allow identification of sequences having at least 70% nucleic acid identity with respect to SEQ ID NO: 14", and SEQ ID NO: 1 of the '905 patent has greater than 70% identity with SEQ ID NO: 14 of the instant application. For evidence of this see SCORE results reproduced below:

```

RESULT 8
AR412100
LOCUS       AR412100                1495 bp    DNA        linear    PAT 18-DEC-2003
DEFINITION  Sequence 1 from patent US 6638905.
ACCESSION   AR412100
VERSION     AR412100.1  GI:40164659
KEYWORDS
SOURCE      Unknown.
  ORGANISM   Unknown.
             Unclassified.
REFERENCE   1  (bases 1 to 1495)
  AUTHORS   Perrin,M.H., Chen,R., Lewis,K.A., Vale,W.W. Jr., Donaldson,C.J. and
             Sawchenko,P.
  TITLE     Cloning and recombinant production of CFR receptor(s)
  JOURNAL   Patent: US 6638905-A 1 28-OCT-2003;
             The Salk Institute for Biological Studies; La Jolla, CA
FEATURES             Location/Qualifiers
     source          1..1495
                     /organism="unknown"
                     /mol_type="genomic DNA"
ORIGIN

```

```

Query Match          88.4%;  Score 1398;  DB 6;  Length 1495;
Best Local Similarity 94.5%;  Pred. No. 1e-252;
Matches 1495;  Conservative 0;  Mismatches 0;  Indels 87;  Gaps 1;

```

```

QY      1  CGAGCCCGCAGCCGCCCGCCGGTTCCTCTGGGATGTCCGTAGGACCCGGGCATTTCAGGAC 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1  CGAGCCCGCAGCCGCCCGCCGGTTCCTCTGGGATGTCCGTAGGACCCGGGCATTTCAGGAC 60

QY     61  GGTAGCCGAGCGAGCCCGAGGATGGGAGGGCACCCGCAGCTCCGTCTCGTCAAGGCCCTT 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61  GGTAGCCGAGCGAGCCCGAGGATGGGAGGGCACCCGCAGCTCCGTCTCGTCAAGGCCCTT 120

QY    121  CTCCTTCTGGGGCTGAACCCCGTCTCTGCCTCCCTCCAGGACCAGCACTGCGAGAGCCTG 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121  CTCCTTCTGGGGCTGAACCCCGTCTCTGCCTCCCTCCAGGACCAGCACTGCGAGAGCCTG 180

QY    181  TCCCTGGCCAGCAACATCTCAGGACTGCAGTGCAACGCATCCGTGGACCTCATTGGCACC 240

```

Art Unit: 1649

Db 181 TCCCTGGCCAGCAACATCTCAGGACTGCAGTGCAACGCATCCGTGGACCTCATTGGCACC 240

Qy 241 TGCTGGCCCCGAGCCCTGCGGGGAGCTAGTGGTTCGGCCCTGCCCTGCCTTTTTCTAT 300

Db 241 TGCTGGCCCCGAGCCCTGCGGGGAGCTAGTGGTTCGGCCCTGCCCTGCCTTTTTCTAT 300

Qy 301 GGTGTCCGCTACAATACCACAAACAATGGCTACCGGGAGTGCCTGGCCAATGGCAGCTGG 360

Db 301 GGTGTCCGCTACAATACCACAAACAATGGCTACCGGGAGTGCCTGGCCAATGGCAGCTGG 360

Qy 361 GCCGCCCCGCGTGAATTACTCCGAGTGCCAGGAGATCCTCAATGAGGAGAAAAAAGCAAG 420

Db 361 GCCGCCCCGCGTGAATTACTCCGAGTGCCAGGAGATCCTCAATGAGGAGAAAAAAGCAAG 420

Qy 421 GTGCACTACCATGTGCGAGTCATCATCAACTACCTGGGCCACTGTATCTCCCTGGTGGCC 480

Db 421 GTGCACTACCATGTGCGAGTCATCATCAACTACCTGGGCCACTGTATCTCCCTGGTGGCC 480

Qy 481 CTCCTGGTGGCCTTTGTCTCTTTCTGCGGCTCAGGCCAGGCTGCACCCATTGGGGTGAC 540

Db 481 CTCCTGGTGGCCTTTGTCTCTTTCTGCGGCTC----- 513

Qy 541 CAGGCAGATGGAGCCCTGGAGGTGGGGGCTCCATGGAGTGGTGCCCCATTTAGGTTCTGA 600

Db 514 ----- 513

Qy 601 AGGAGCATCCGGTGCCTGCGAAACATCATCCACTGGAACCTCATCTCCGCCTTCATCCTG 660

Db 514 AGGAGCATCCGGTGCCTGCGAAACATCATCCACTGGAACCTCATCTCCGCCTTCATCCTG 573

Qy 661 CGCAACGCCACCTGGTTCGTGGTCCAGCTAACCATGAGCCCCGAGGTCCACCAGAGCAAC 720

Db 574 CGCAACGCCACCTGGTTCGTGGTCCAGCTAACCATGAGCCCCGAGGTCCACCAGAGCAAC 633

Qy 721 GTGGGCTGGTGCAGGTTGGTGACAGCCGCCTACAACACTTCCATGTGACCAACTTCTTC 780

Db 634 GTGGGCTGGTGCAGGTTGGTGACAGCCGCCTACAACACTTCCATGTGACCAACTTCTTC 693

Qy 781 TGGATGTTTCGGCGAGGGCTGCTACCTGCACACAGCCATCGTGCTCACCTACTCCACTGAC 840

Db 694 TGGATGTTTCGGCGAGGGCTGCTACCTGCACACAGCCATCGTGCTCACCTACTCCACTGAC 753

Qy 841 CGGCTGCGCAAATGGATGTTTCATCTGCATTGGCTGGGGTGTGCCCTTCCCCATCATTGTG 900

Db 754 CGGCTGCGCAAATGGATGTTTCATCTGCATTGGCTGGGGTGTGCCCTTCCCCATCATTGTG 813

Qy 901 GCCTGGGCCATTGGGAAGCTGTACTACGACAATGAGAAGTGCTGGTTTGGCAAAGGCCT 960

Db 814 GCCTGGGCCATTGGGAAGCTGTACTACGACAATGAGAAGTGCTGGTTTGGCAAAGGCCT 873

Qy 961 GGGGTGTACACCGACTACATCTACCAGGGCCCCATGATCCTGGTCTCTGCTGATCAATTTT 1020

Db 874 GGGGTGTACACCGACTACATCTACCAGGGCCCCATGATCCTGGTCTCTGCTGATCAATTTT 933

Art Unit: 1649

```
Qy      1021 ATCTTCCTTTTCAACATCGTCCGCATCCTCATGACCAAGCTCCGGGCATCCACCACGTCT 1080
          |||
Db      934 ATCTTCCTTTTCAACATCGTCCGCATCCTCATGACCAAGCTCCGGGCATCCACCACGTCT 993

Qy      1081 GAGACCATTTCAGTACAGGAAGGCTGTGAAAGCCACTCTGGTGCTGCTGCCCCCTCCTGGGC 1140
          |||
Db      994 GAGACCATTTCAGTACAGGAAGGCTGTGAAAGCCACTCTGGTGCTGCTGCCCCCTCCTGGGC 1053

Qy      1141 ATCACCTACATGCTGTTCTTCGTCAATCCCGGGGAGGATGAGGTCTCCCGGGTCGTCTTC 1200
          |||
Db      1054 ATCACCTACATGCTGTTCTTCGTCAATCCCGGGGAGGATGAGGTCTCCCGGGTCGTCTTC 1113

Qy      1201 ATCTACTTCAACTCCTTCCTGGAATCCTTCCAGGGCTTCTTTGTGTCTGTGTTCTACTGT 1260
          |||
Db      1114 ATCTACTTCAACTCCTTCCTGGAATCCTTCCAGGGCTTCTTTGTGTCTGTGTTCTACTGT 1173

Qy      1261 TTCCTCAATAGTGAGGTCCGTTCTGCCATCCGGAAGAGGTGGCACCGGTGGCAGGACAAG 1320
          |||
Db      1174 TTCCTCAATAGTGAGGTCCGTTCTGCCATCCGGAAGAGGTGGCACCGGTGGCAGGACAAG 1233

Qy      1321 CACTCGATCCGTGCCCCGAGTGGCCCGTGCCATGTCCATCCCCACCTCCCCAACCCGTGTC 1380
          |||
Db      1234 CACTCGATCCGTGCCCCGAGTGGCCCGTGCCATGTCCATCCCCACCTCCCCAACCCGTGTC 1293

Qy      1381 AGCTTTCACAGCATCAAGCAGTCCACAGCAGTCTGAGCTGGCAGGTTCATGGAGCAGCCCC 1440
          |||
Db      1294 AGCTTTCACAGCATCAAGCAGTCCACAGCAGTCTGAGCTGGCAGGTTCATGGAGCAGCCCC 1353

Qy      1441 CAAAGAGCTGTGGCTGGGGGGATGACGGCCAGGCTCCCTGACCACCCTGCCTGTGGAGGT 1500
          |||
Db      1354 CAAAGAGCTGTGGCTGGGGGGATGACGGCCAGGCTCCCTGACCACCCTGCCTGTGGAGGT 1413

Qy      1501 GACCTGTTAGGTCTCATGCCCCACTCCCCAGGAGCAGCTGGCACTGACAGCCTGGGGGGG 1560
          |||
Db      1414 GACCTGTTAGGTCTCATGCCCCACTCCCCAGGAGCAGCTGGCACTGACAGCCTGGGGGGG 1473

Qy      1561 CCGCTCTCCCCCTGCAGCCGTG 1582
          |||
Db      1474 CCGCTCTCCCCCTGCAGCCGTG 1495
```

In addition, the CRF receptor protein recited in the claims of the '905 patent has greater than 70% identity with SEQ ID NO: 15. For evidence of this see SCORE results reproduced below

RESULT 8  
US-09-191-724-1  
; Sequence 1, Application US/09191724  
; Patent No. 6638905

Art Unit: 1649

```
; GENERAL INFORMATION:
; APPLICANT: Perrin, Marilyn H.
; APPLICANT: Chen, Ruoping
; APPLICANT: Lewis, Kathy A.
; APPLICANT: Vale Jr., Wylie W.
; APPLICANT: Donaldson, Cynthia J.
; APPLICANT: Sawchenko, Paul
; TITLE OF INVENTION: Cloning and Recombinant Production of
; TITLE OF INVENTION: CRF Receptor(s)
; FILE REFERENCE: Salk1748
; CURRENT APPLICATION NUMBER: US/09/191,724
; CURRENT FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: US 08/374,009
; EARLIER FILING DATE: 1995-01-17
; EARLIER APPLICATION NUMBER: US 08/353,537
; EARLIER FILING DATE: 1994-12-09
; EARLIER APPLICATION NUMBER: PCT/US94/05908
; EARLIER FILING DATE: 1993-05-25
; EARLIER APPLICATION NUMBER: US 08/110,286
; EARLIER FILING DATE: 1993-08-23
; EARLIER APPLICATION NUMBER: US 08/079,320
; EARLIER FILING DATE: 1993-06-18
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 1495
;   TYPE: DNA
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: CDS
;   LOCATION: (82)...(1326)
;   OTHER INFORMATION: /product = "Human pituitary CRF-receptor"
;   OTHER INFORMATION: /note= "This sequence is encoded by clone
;   OTHER INFORMATION: "CRF-R1".
US-09-191-724-1
```

```
Query Match          88.4%;   Score 1398;   DB 3;   Length 1495;
Best Local Similarity 94.5%;   Pred. No. 0;
Matches 1495;   Conservative    0;   Mismatches    0;   Indels    87;   Gaps
```

1;

```
Qy      1  CGAGCCCGCAGCCGCGCCGCGGTTCTCTGGGATGTCCGTAGGACCCGGGCATTCAGGAC  60
          |||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1  CGAGCCCGCAGCCGCGCCGCGGTTCTCTGGGATGTCCGTAGGACCCGGGCATTCAGGAC  60

Qy     61  GGTAGCCGAGCGAGCCCGAGGATGGGAGGGCACCCGCGAGCTCCGTCTCGTCAAGGCCCTT 120
          |||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61  GGTAGCCGAGCGAGCCCGAGGATGGGAGGGCACCCGCGAGCTCCGTCTCGTCAAGGCCCTT 120

Qy    121  CTCCTTCTGGGGCTGAACCCCGTCTCTGCCTCCCTCCAGGACCAGCACTGCGAGAGCCTG 180
          |||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121  CTCCTTCTGGGGCTGAACCCCGTCTCTGCCTCCCTCCAGGACCAGCACTGCGAGAGCCTG 180

Qy    181  TCCCTGGCCAGCAACATCTCAGGACTGCAGTGCAACGCATCCGTGGACCTCATTGGCACC 240
```

Art Unit: 1649

Db 181 TCCCTGGCCAGCAACATCTCAGGACTGCAGTGCAACGCATCCGTGGACCTCATTGGCACC 240

Qy 241 TGCTGGCCCCGAGCCCTGCGGGGAGCTAGTGGTTCGGCCCTGCCCTTTTCTAT 300

Db 241 TGCTGGCCCCGAGCCCTGCGGGGAGCTAGTGGTTCGGCCCTGCCCTTTTCTAT 300

Qy 301 GGTGTCCGCTACAATACCACAAACAATGGCTACCGGGAGTGCCTGGCCAATGGCAGCTGG 360

Db 301 GGTGTCCGCTACAATACCACAAACAATGGCTACCGGGAGTGCCTGGCCAATGGCAGCTGG 360

Qy 361 GCCGCCCCGCGTGAATTACTCCGAGTGCCAGGAGATCCTCAATGAGGAGAAAAAAGCAAG 420

Db 361 GCCGCCCCGCGTGAATTACTCCGAGTGCCAGGAGATCCTCAATGAGGAGAAAAAAGCAAG 420

Qy 421 GTGCACTACCATGTGCGAGTCATCATCAACTACCTGGGCCACTGTATCTCCCTGGTGGCC 480

Db 421 GTGCACTACCATGTGCGAGTCATCATCAACTACCTGGGCCACTGTATCTCCCTGGTGGCC 480

Qy 481 CTCCTGGTGGCCTTTGTCTCTTTCTGCGGCTCAGGCCAGGCTGCACCCATTGGGGTGAC 540

Db 481 CTCCTGGTGGCCTTTGTCTCTTTCTGCGGCTC----- 513

Qy 541 CAGGCAGATGGAGCCCTGGAGGTGGGGGCTCCATGGAGTGGTGCCCCATTTTCAGGTTCTGA 600

Db 514 ----- 513

Qy 601 AGGAGCATCCGGTGCCTGCGAAACATCATCCACTGGAACCTCATCTCCGCCTTCATCCTG 660

Db 514 AGGAGCATCCGGTGCCTGCGAAACATCATCCACTGGAACCTCATCTCCGCCTTCATCCTG 573

Qy 661 CGCAACGCCACCTGGTTTCGTGGTCCAGCTAACCATGAGCCCCGAGGTCCACCAGAGCAAC 720

Db 574 CGCAACGCCACCTGGTTTCGTGGTCCAGCTAACCATGAGCCCCGAGGTCCACCAGAGCAAC 633

Qy 721 GTGGGCTGGTGCAGGTTGGTGACAGCCGCCTACAACACTTCCATGTGACCAACTTCTTC 780

Db 634 GTGGGCTGGTGCAGGTTGGTGACAGCCGCCTACAACACTTCCATGTGACCAACTTCTTC 693

Qy 781 TGGATGTTTCGGCGAGGGCTGCTACCTGCACACAGCCATCGTGCTCACCTACTCCACTGAC 840

Db 694 TGGATGTTTCGGCGAGGGCTGCTACCTGCACACAGCCATCGTGCTCACCTACTCCACTGAC 753

Qy 841 CGGCTGCGCAAATGGATGTTTCATCTGCATTGGCTGGGGTGTGCCCTTCCCCATCATTGTG 900

Db 754 CGGCTGCGCAAATGGATGTTTCATCTGCATTGGCTGGGGTGTGCCCTTCCCCATCATTGTG 813

Qy 901 GCCTGGGCCATTGGGAAGCTGTACTACGACAATGAGAAGTGCTGGTTTGGCAAAGGCCT 960

Db 814 GCCTGGGCCATTGGGAAGCTGTACTACGACAATGAGAAGTGCTGGTTTGGCAAAGGCCT 873

Qy 961 GGGGTGTACACCGACTACATCTACCAGGGCCCCATGATCCTGGTCCTGCTGATCAATTTTC 1020

Db 874 GGGGTGTACACCGACTACATCTACCAGGGCCCCATGATCCTGGTCCTGCTGATCAATTTTC 933

Art Unit: 1649

Qy	1021	ATCTTCCTTTTCAACATCGTCCGCATCCTCATGACCAAGCTCCGGGCATCCACCACGTCT	1080
Db	934	ATCTTCCTTTTCAACATCGTCCGCATCCTCATGACCAAGCTCCGGGCATCCACCACGTCT	993
Qy	1081	GAGACCATTTCAGTACAGGAAGGCTGTGAAAGCCACTCTGGTGCTGCTGCCCCCTCCTGGGC	1140
Db	994	GAGACCATTTCAGTACAGGAAGGCTGTGAAAGCCACTCTGGTGCTGCTGCCCCCTCCTGGGC	1053
Qy	1141	ATCACCTACATGCTGTTCTTCGTCAATCCCGGGGAGGATGAGGTCTCCCGGGTCGTCTTC	1200
Db	1054	ATCACCTACATGCTGTTCTTCGTCAATCCCGGGGAGGATGAGGTCTCCCGGGTCGTCTTC	1113
Qy	1201	ATCTACTTCAACTCCTTCCTGGAATCCTTCAGGGCTTCTTTGTGTCTGTGTTCTACTGT	1260
Db	1114	ATCTACTTCAACTCCTTCCTGGAATCCTTCAGGGCTTCTTTGTGTCTGTGTTCTACTGT	1173
Qy	1261	TTCCTCAATAGTGAGGTCCGTTCTGCCATCCGGAAGAGGTGGCACCGGTGGCAGGACAAG	1320
Db	1174	TTCCTCAATAGTGAGGTCCGTTCTGCCATCCGGAAGAGGTGGCACCGGTGGCAGGACAAG	1233
Qy	1321	CACTCGATCCGTGCCCCGAGTGGCCCGTGCCATGTCCATCCCCACCTCCCCAACCCGTGTC	1380
Db	1234	CACTCGATCCGTGCCCCGAGTGGCCCGTGCCATGTCCATCCCCACCTCCCCAACCCGTGTC	1293
Qy	1381	AGCTTTTCACAGCATCAAGCAGTCCACAGCAGTCTGAGCTGGCAGGTCATGGAGCAGCCCC	1440
Db	1294	AGCTTTTCACAGCATCAAGCAGTCCACAGCAGTCTGAGCTGGCAGGTCATGGAGCAGCCCC	1353
Qy	1441	CAAAGAGCTGTGGCTGGGGGGATGACGGCCAGGCTCCCTGACCACCCTGCCTGTGGAGGT	1500
Db	1354	CAAAGAGCTGTGGCTGGGGGGATGACGGCCAGGCTCCCTGACCACCCTGCCTGTGGAGGT	1413
Qy	1501	GACCTGTTAGGTCTCATGCCCCACTCCCCAGGAGCAGCTGGCACTGACAGCCTGGGGGGG	1560
Db	1414	GACCTGTTAGGTCTCATGCCCCACTCCCCAGGAGCAGCTGGCACTGACAGCCTGGGGGGG	1473
Qy	1561	CCGCTCTCCCCCTGCAGCCGTG	1582
Db	1474	CCGCTCTCCCCCTGCAGCCGTG	1495

In addition, claim 5 (80% nucleic acid identity with respect to SEQ ID NO: 14) and claim 6 (90% nucleic acid identity with respect to SEQ ID NO: 14), are encompassed by the claims of the '905 patent since SEQ ID NO: 1 (recited in the patented claims) has over 94% similarity with SEQ ID NO: 14 (recited in the instant claims). The instant claims are very broad, and recite the claimed CRF receptor protein

Art Unit: 1649

in terms of hybridization to the complement of the DNA encoding the protein, thus encompass the claims of the '905 patent.

### ***Conclusion***

Claims 1-2, 5-6, 8-11, 13-14 and 19 are rejected. Claim 7 contains allowable subject matter.

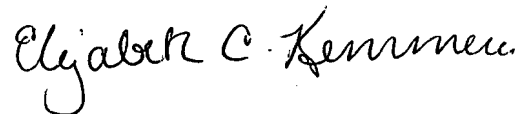
Art Unit: 1649

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Borgeest whose telephone number is 571-272-4482. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres, Ph.D. can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christina Borgeest, Ph.D.



**ELIZABETH KEMMERER  
PRIMARY EXAMINER**